polymer annulus. Claim 39 more specifically requires that one or more irregularly shaped fibers has a melting point at least 100 degrees Fahrenheit higher than a melting point said outer polymer annulus, and claim 47 still more specifically requires that the melting point of the outer polymer annulus is at least 100 degrees Fahrenheit lower than a melting point of the core and a melting point of the plurality of structural fibers.

Applicant previously traversed these rejections on the ground that Chenoweth fails to mention in any express fashion the melting point of the synthetic fibers 14 relative to that of the sheath 20 of the bicomponent fibers 16. Therefore, it is simply impossible to know whether the requirements of these claims are met. In such a case, it cannot be that this reference expressly discloses the exact same invention claimed, such that an anticipation rejection would be proper.

Despite having previously **expressly agreed** with this deficiency of Chenoweth (*see* the Office Action of May 16, 2007, page 6, second paragraph, "Chenoweth et al. does not explicitly teach the claimed melting point of the irregularly shaped fibers being significantly higher than the outer polymer annulus"), the Examiner now takes a contrary position in holding the claims expressly anticipated by this reference. Specifically, the Examiner asserts that Chenoweth teaches synthetic fibers 14 made of Dacron polyester, and further specifies that bicomponent fibers 16 "have a Dacron polyester core having a melting point of 485 degrees F and a sheath having a melting point of at least about 100 degrees lower than the melting/bonding point of the core, in particular 285 degrees F" (Office Action of December 13, 2007, p. 3, ¶ 6). Based on this allegation, the Examiner assumes the melting point of the synthetic fibers 14 of Dacron polyester must necessarily be 485 degrees F, which would be "significantly" or 100 degrees higher than the 285 degree F melting point of the

sheath of the bicomponent fibers 16, and thus posits this reference meets the terms of the subject claims.

The problem with the Examiner's position is that it relies entirely on two assumptions. The first assumption is that Dacron polyester "is noted by Chenoweth et al. to have a melting point of 485 degrees F" (Office Action p. 3, ¶ 6). No such statement is made anywhere in Chenoweth. Rather, what it states is that "the polyester core 18 exhibits a melting/bonding temperature of, for example, 485 ° F" (col. 5, lines 20-22). The reference then states that a "suitable product" for use as the bicomponent fibers is "Dacron polyester core and sheath fibers" (col. 5, lines 33-36). It is assumed by the Examiner that Dacron has this precise melting point simply because it is a "suitable product" for use in the invention, which is a *non sequitur*.

A second assumption is that the synthetic fibers 14 of Chenoweth have the same exact melting point as the core of the bicomponent fibers 16, 485 degrees Fahrenheit. As Applicant previously established and the Examiner does not contest, Chenoweth does not expressly state the melting point of the synthetic fibers 14. Thus, in order for such assumption to be accurate, the melting point of these fibers must "necessarily" be 485 degrees.

However, upon a careful consideration of the teachings of Chenoweth, it becomes clear that such is not necessarily the case, and the Examiner's assumption relies on speculation, rather than the requisite substantial evidence. Chenoweth specifically teaches that the outer sheath 20 is formed of "low melt" temperature copolymer polyester, while the core 18 is formed of "regular" melt homopolymer polyester. As noted above, this reference then describes a suitable product for use with the invention as "Dacron polyester core and sheath fibers" (col. 5, lines 33-36; emphasis added). Of course, if both the core and sheath are made of Dacron polyester, as this passage suggests, then it must be the case that

the Dacron materials forming the core and sheath have different melting points, such as based on the degree of crystallization present.[1]

As noted above, Chenoweth merely states that the synthetic fibers 14 may comprise Dacron. No melting point of this material is specified. Furthermore, the reference does not state or otherwise indicate that the Dacron is of the same type used as either the sheath or the core of the bicomponent fibers 16. While it is ***possible*** that it is the same material as the core, as assumed by the Examiner, it is equally possible that it is the same material as the sheath. Regardless, such a possibility cannot support a proper rejection based on anticipation.

The same analysis applies to the teaching of "Nylon" as the material comprising the synthetic fibers 14 in Chenoweth. The Examiner discusses the melting point of only two of the many types of Nylon, neither of which is mentioned in Chenoweth. Moreover, the definition supplied and made of record expressly states that there are many types of Nylon with different properties (including Nylon 9, 11, 12, and 610), including melting points. Again, while it is possible, or even probable, that the Nylon mentioned in Chenoweth is one of the types discussed by the Examiner, this cannot support a proper anticipation rejection.

As for obviousness, there is simply nothing in Chenoweth to teach or suggest the claimed disparity in the melting point of irregular structural fibers versus bicomponent fibers in a conformable surfacing veil, as claimed. Accordingly, it cannot render the inventions of these claims "obvious."

Applicant also requests reconsideration of the rejections of claims 8, 44-46, and 49-50 as being directed to "obvious" inventions in view of the teachings of

[1] That there are different types of Dacron fibers is confirmed by U.S. Patent No. 3,932,131 ("As concrete examples of the abovementioned modified polyester fibers, there may be mentioned various types of Dacron spun fibers such as Dacron Types 64, 65, 651, 89, 161, 167, 62, 92 and 69, all manufactured by E. I. du Pont de Nemours & Company of U.S.A.")

Chenoweth in view of U.S. Patent No. 5,571,592 to McGregor et al. ("McGregor"). In making the rejection, the Examiner admits that Chenoweth does not disclose or even remotely mention the claimed microspheres. Accordingly, citation is made to McGregor for a teaching of microspheres. In making the rejection, the Examiner acknowledges that McGregor mentions that providing microspheres in a binder of the type disclosed in Chenoweth "might not be a desired configuration," but concludes that McGregor nonetheless provides "motivation to incorporate microspheres into the non-woven product of Chenoweth" (Office Action, p. 5, lines 1-2).

The Examiner's statement is based on a selective and overly narrow interpretation of McGregor, and not on its teachings as a whole. McGregor specifically states that "[t]he problem with . . . previous attempts to use microspheres with a binder material is that the binder materials tend to limit many desirable properties of thermal insulation" (col. 2, ll. 31-34). McGregor then goes on to discuss the various problems associated with the use of a binder, and the espouses a desire for "[t]he use of spheres **alone or unadhered** in thermal insulation" (col. 2, ll. 43-44) (emphasis added). In other words, the teaching of McGregor is for the use of microspheres without a binder.

In stark contrast, Chenoweth et al. is solely limited to an insulating material with fibers "which have been intimately combined with a thermosetting resin" (Abstract). This thermosetting resin "bonds the fiber matrix together" (col. 2, ll. 60-61) and thus serves as the binder. Indeed, Chenoweth et al. expressly states that it is "an object of the invention to provide a non-woven matrix of glass and homogeneous and bi-component synthetic fibers **having a thermosetting resin dispersed therethrough**" (col. 3, ll. 34-37) (emphasis added).

Summarizing, McGregor teaches that the use of microspheres "alone or unadhered" to any binder is highly desirable, while Chenoweth et al. is solely

limited to a binder and fails to mention any microspheres. A skilled artisan reviewing the teachings of McGregor would thus be **discouraged** from providing microspheres in the product of Chenoweth et al. In proposing that it would be "obvious" to combine the features of these references, the Examiner completely ignores their divergent teachings, which would actually lead a skilled artisan away from the combination. *See, e.g. In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be . . . led in a direction divergent from the path that was taken by the applicant."). Such a "teaching away" has long been considered inimical to a finding of obviousness. *See KSR Int'l Co v. Teleflex, Inc.*, 127 S.Ct. 1727, 1742 (2007) (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Accordingly, Applicant submits that upon considering the teachings of the references "as a whole," the conclusion is inescapable that their teachings would not be combined, and a *prima facie* case of obviousness is therefore lacking.

Claims 18-19 and 22-23 refer to a surfacing veil wherein the outer polymer annulus comprises a low melt copolymer **polypropylene or polyethylene** The Examiner admits that these materials are not mentioned anywhere in Chenoweth et al., but cites to U.S. Patent No. 5,840,637 to Denton et al. ("Denton") as showing that "these materials are equivalent structures known in the art."

First of all, Applicant respectfully submits that this is not the proper analysis for a rejection based on obvious. Rather, there must be a reason to combine the teachings of the references. *See KSR Int'l Co v. Teleflex, Inc., supra.* ("it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does."). Here, the Examiner provides absolutely no

reason to combine the teachings of these references to arrive at the claimed inventions, either in the non-final or final versions of the rejections made.

Secondly, simply because Denton provides a listing of various types of bicomponent fibers does not mean that they are all "equivalents." The Examiner in the final Office Action states that polyethylene or polypropylene is established as being "suitable equivalents for a sheath-core fiber structure." Even if correct, it is a *non sequitur* to conclude that it would be "obvious" to use such in the claimed combinations. Accordingly, reconsideration is respectfully requested, since a *prima facie* case of obviousness is lacking with respect to claims 18 and 19, as well as for claim 23 (which also requires that the outer polymer annulus recited in claim 1 comprise a low melt copolymer polypropylene).

In summary, none of the pending claims are anticipated or rendered obvious in view of Chenoweth et al. or the other cited references, so the rejections should be withdrawn and all claims formally allowed. Upon careful review and consideration, it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited to avoid the need for bringing this matter before the Board. Authorization is given to charge any fees required to Deposit Account No. 50-0568 in connection with this Amendment.

Respectfully submitted,

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